

## Experimental Climate Monitoring and Prediction for the Maldives

–October 2013

Prepared by Staff from Foundation for Environment, Climate and Technology, Sri Lanka and USA, Maldives Meteorological Service, and International Research Institute for Climate and Society

### 01 October 2013

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### PACIFIC SEAS STATE

**September 19,  
2013**

During June through early-July the observed ENSO conditions remained neutral. Most of the ENSO prediction models indicate a continuation of neutral ENSO through the remainder of 2013 and the first quarter of 2014. However, a few (mainly statistical) models, call for cooling towards borderline or weak La Niña conditions for Northern autumn into winter while a few others, mainly dynamical, forecast developing El Niño conditions during this same time frame.

(Text Courtesy IRI)

### INDIAN OCEAN STATE

**October 01, 2013**

Seas towards the southern side of Maldives show a positive SST anomaly up to 0.5° C.

### Highlights<sup>2</sup>

*The Rainfall has decreased in Northern and Southern islands of Maldives compared to the past 8 years' average. In central islands even though rather high rainfall was observed still a large rainfall deficit from the seasonal average. Rainfall in the next three months is expected to be climatologically normal.*

### Summary<sup>2</sup>

#### CLIMATOLOGY

**Monthly Climatology:** The climatology refers to the average conditions experienced historically for a given month. Usually the climatology is a good guide to what one may expect in a given month absent other information. The historical average rainfall for the Northern islands is high in July (200-250 mm), higher in August (250- 300 mm) and drops in September & October (100- 200 mm). In the Central islands rainfall is usually moderate (150- 200 mm) during the August – October period. Heavy rainfall is typical for the Southern islands during these four months. The winds over the Northern & Central islands are usually westerly (from West to East) and wind speeds are expected to be high. For Southern islands, low wind speeds are expected for July and August but stronger westerly winds in September and October.

#### MONITORING

**Weekly Monitoring:** During 23<sup>rd</sup> -28<sup>th</sup> September only Southern-most islands received very less amount of rainfall.

**Monthly and Seasonal Monitoring:** The negative rainfall anomalies observed throughout the country has decreased except in central islands where it continues to grow. In Southern Maldives a peak in the observed rainfall was observed in late August to early September period. This was the second highest peak in the rainfall observed in this year in this region.

**Sea Surface Temperatures and ENSO state:** The ENSO state continues to be neutral with a few models predicting a La Nina tendency. The sea surfaces around Maldives shows neutral conditions except that there is a warm anomaly in equatorial Indian Ocean near. The Pacific Ocean surfaces show a tendency neutral.

#### PREDICTIONS

**Weekly Rainfall Forecast:** Heavy rainfall events are not expected during 30<sup>th</sup> Sep -5<sup>th</sup> of October.

**Seasonal Rainfall and Temperature Prediction:** As per IRI Multi Model Probability Forecast for October to December 2013 rainfall shall remain climatological while temperature this season shall be 40- 50% above normal.

### Inside this Issue

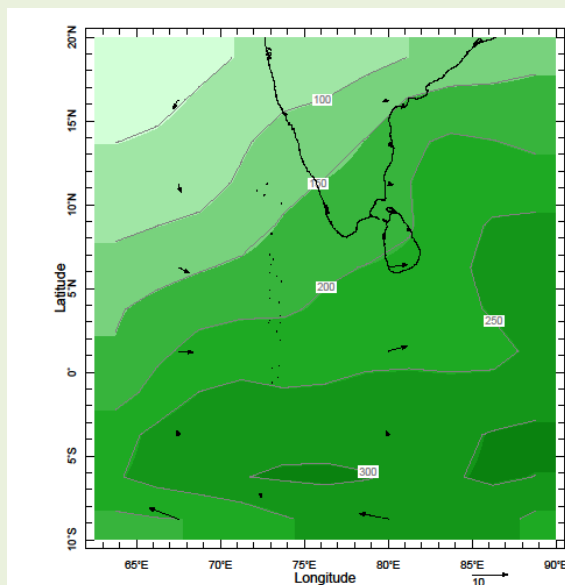
1. Monthly Climatology
2. Rainfall Monitoring
  - a. Daily Satellite derived Rainfall Estimates
  - b. Monthly Rainfall derived from Satellite Rainfall Estimate
  - c. Monthly and Seasonal Monitoring
  - d. Weekly Average SST Anomalies
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  - a. Weekly Predictions from NOAA/NCEP
  - b. Seasonal Predictions from IRI<sup>1</sup>

<sup>1</sup> International Research Institute for Climate and Society.

<sup>2</sup>These interpretations of climatic conditions are an experimental product. Please consult with the Maldives Meteorological Services for advice on interpretation.

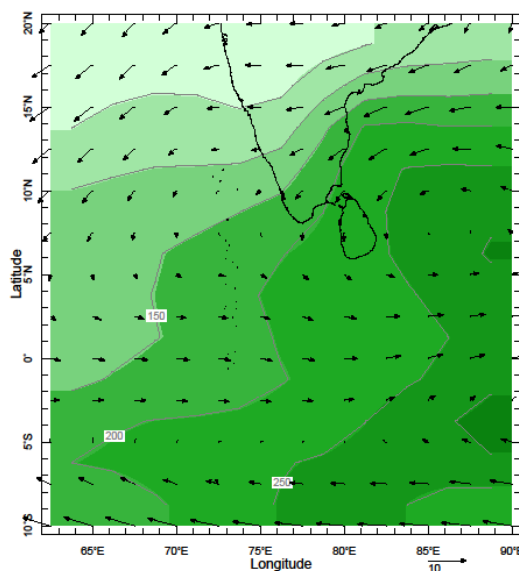
## 1). Monthly Climatology (CAM5-OPI):

### a) Rainfall: Maps: October, November, December and January



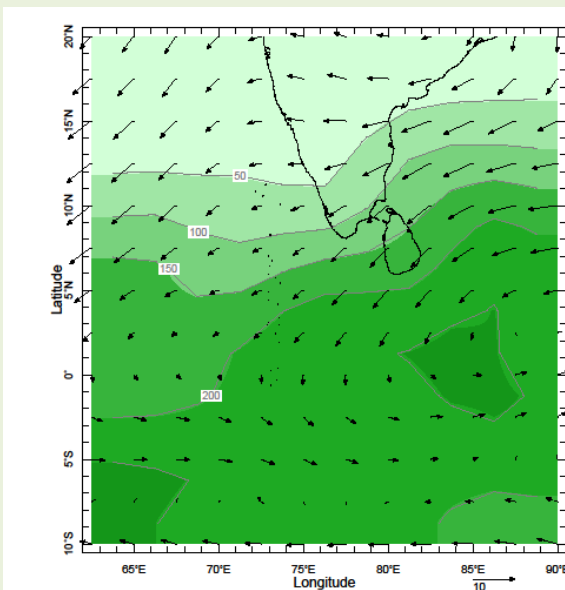
Time Oct Pressure 925. mb

October



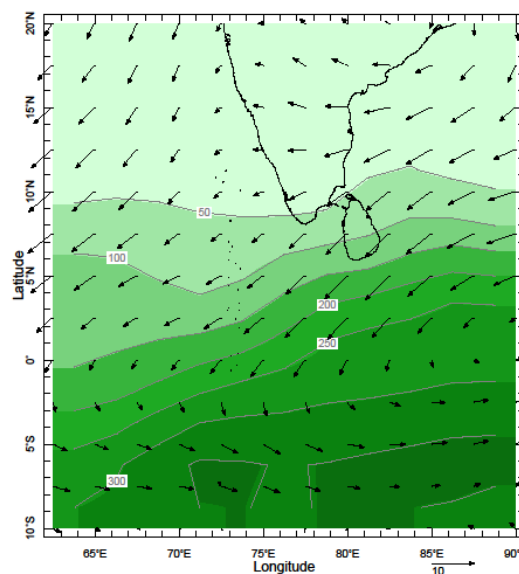
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November



Time Dec Pressure 925. mb

December

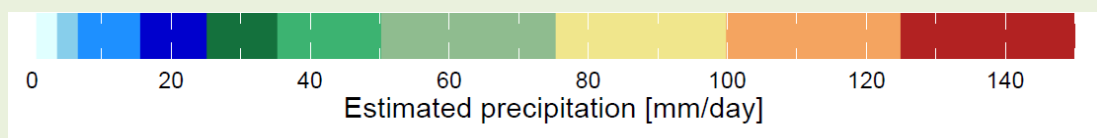
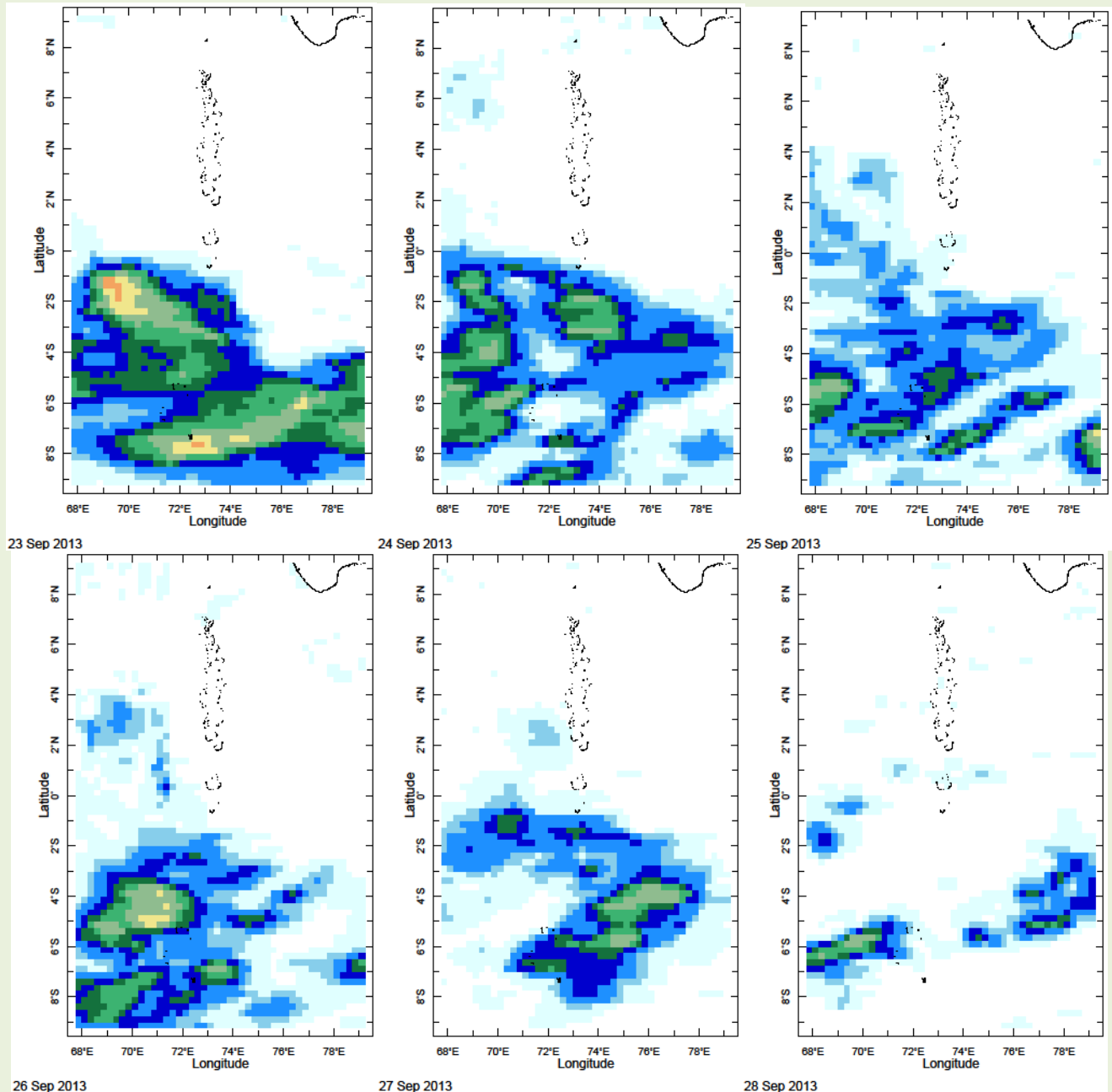


Time Jan Pressure 925. mb

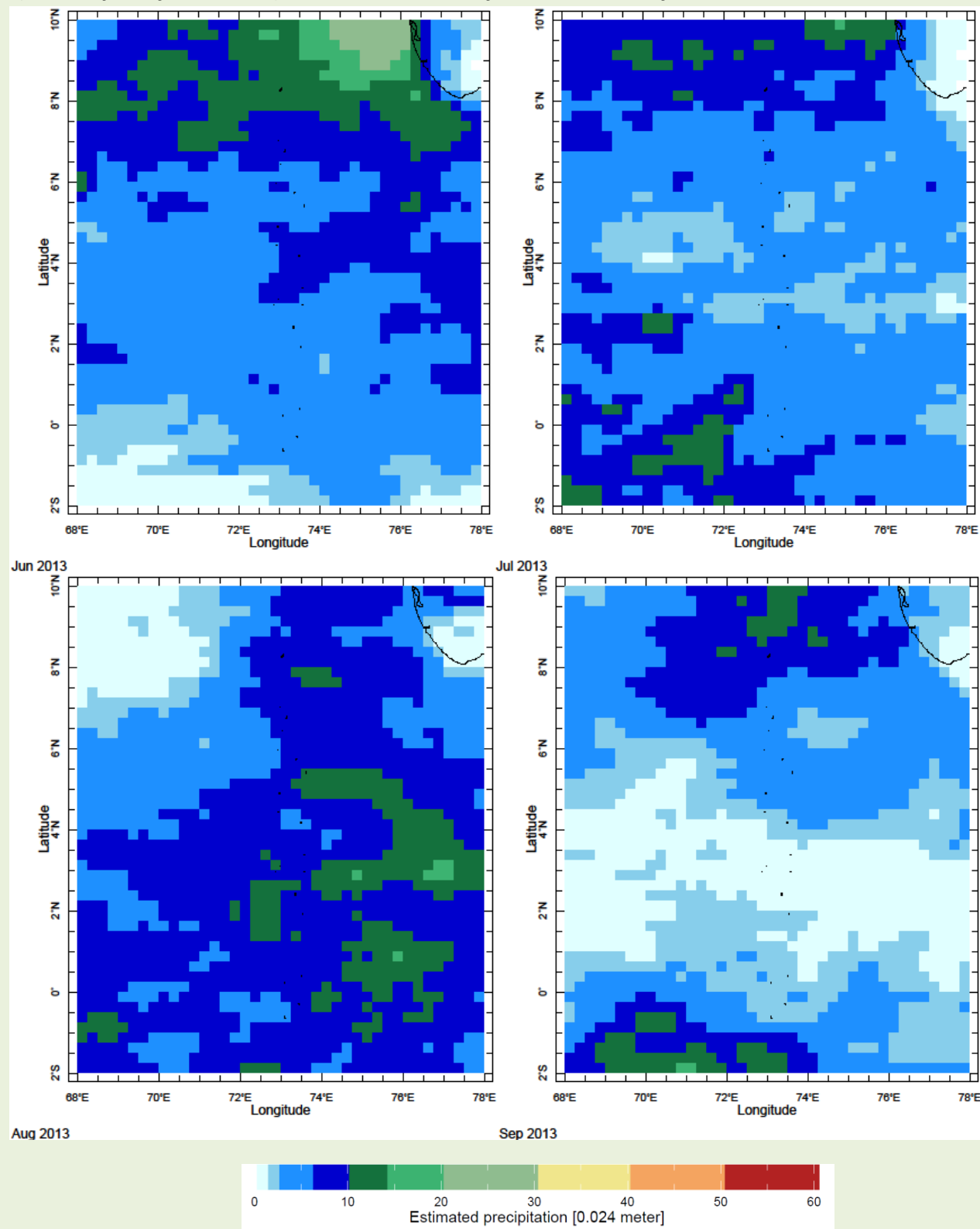
January

## 2) Rainfall Monitoring

### a) Daily Satellite Derived Rainfall Estimate Maps: 23<sup>rd</sup> – 28<sup>th</sup> of September, 2013 (Left-Right, Top-Bottom)



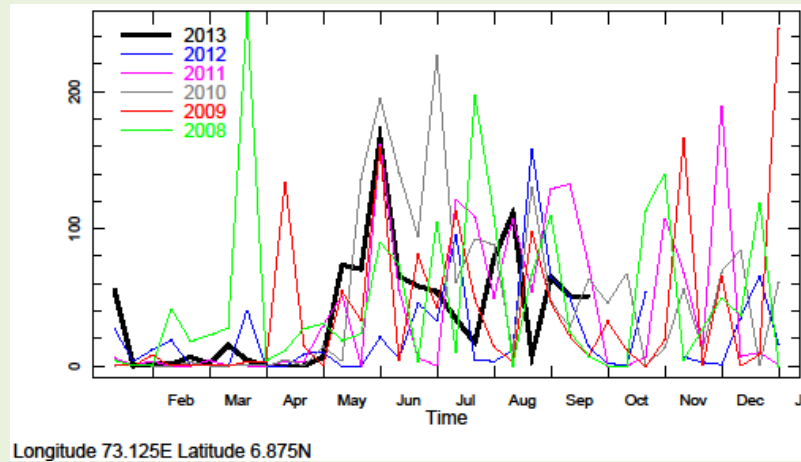
**b) Monthly Rainfall (June- September 2013), Derived from Satellite Rainfall Estimates**



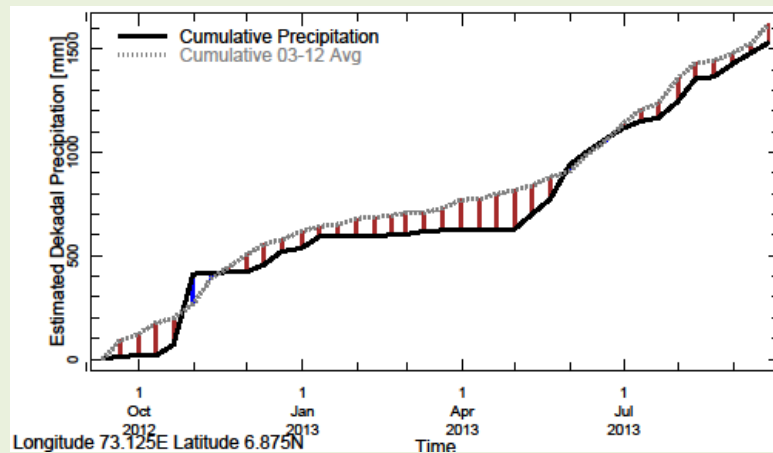
## c) Seasonal to Annual Rainfall Monitoring

### i) For Northern Maldives

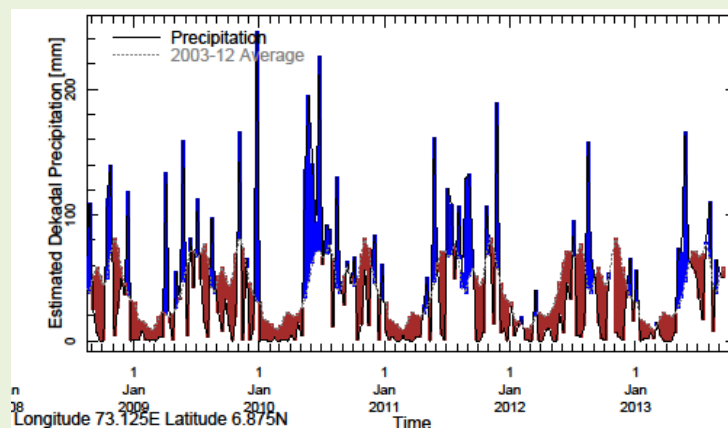
#### 1) Rainfall in 2013 (black) compared to rainfall in previous 5 years



#### 2) Rainfall of past 365 days (black) compared to average rainfall in previous 8 years.

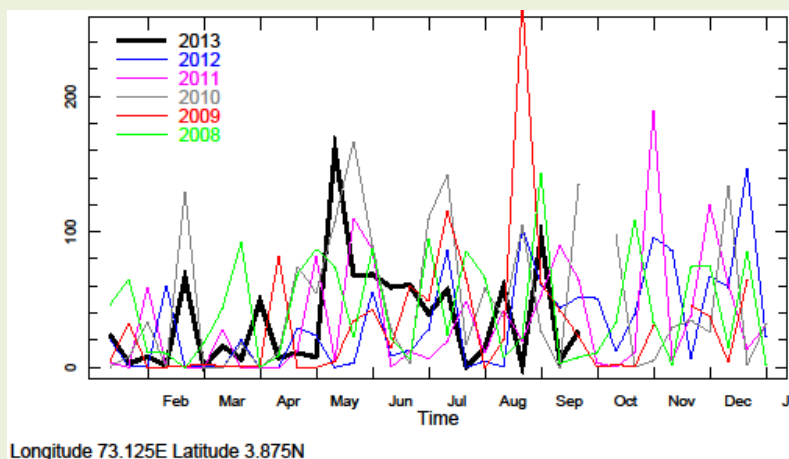


#### 3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.

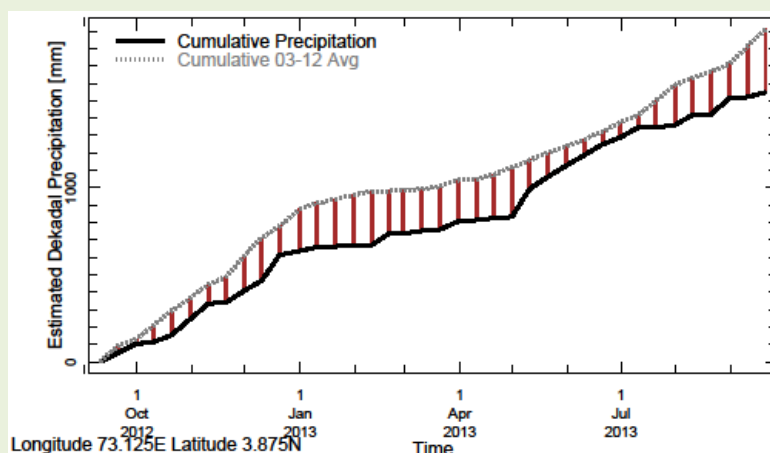


## ii) For Central Maldives

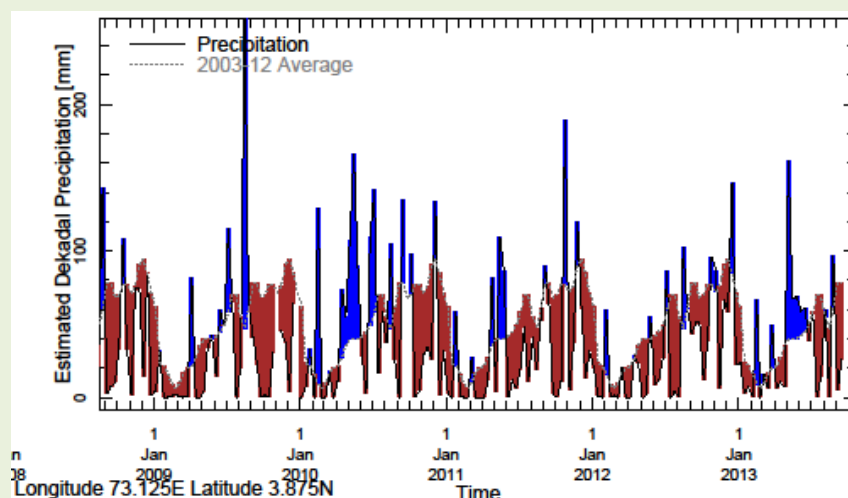
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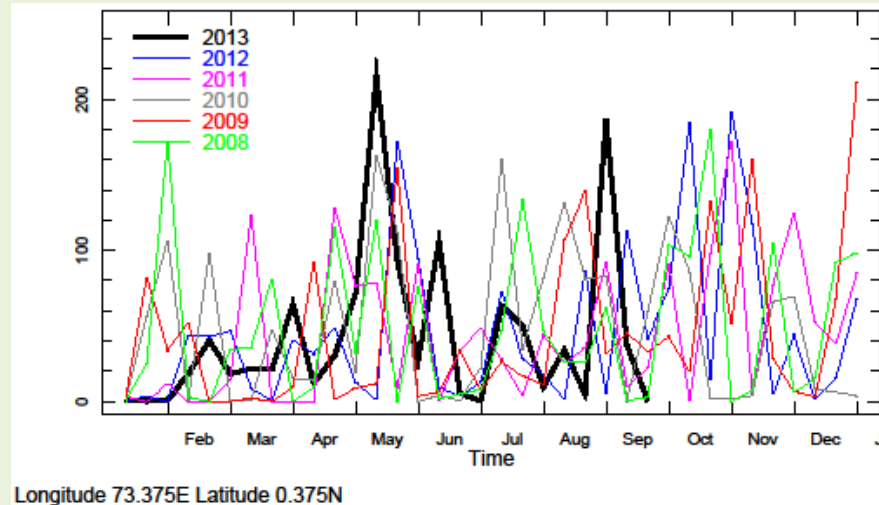


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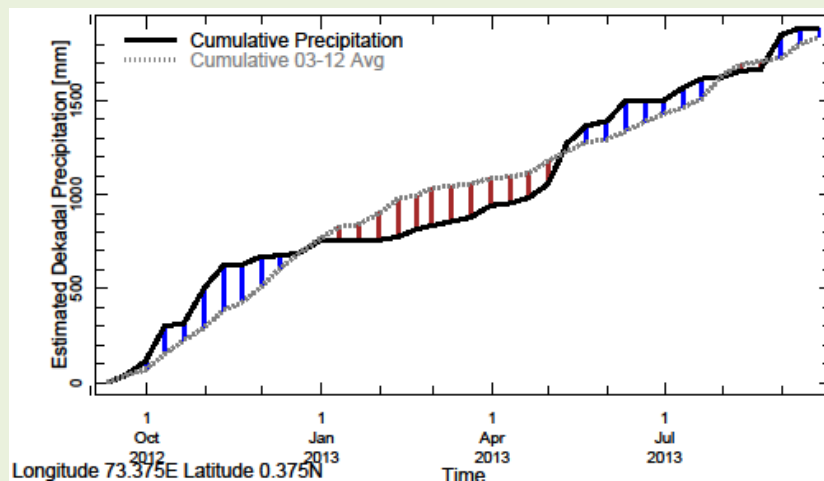


### iii) For Southern Maldives

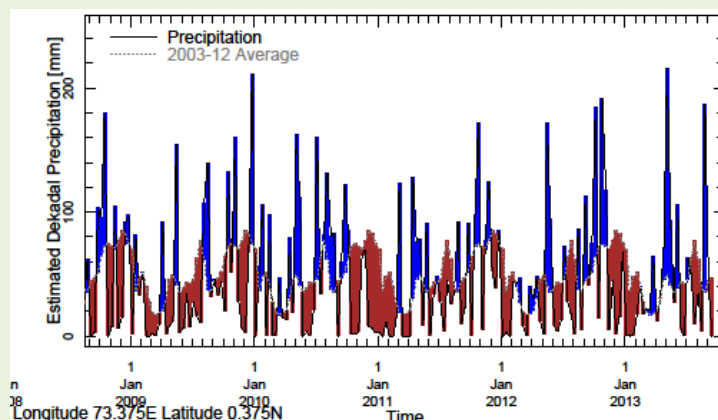
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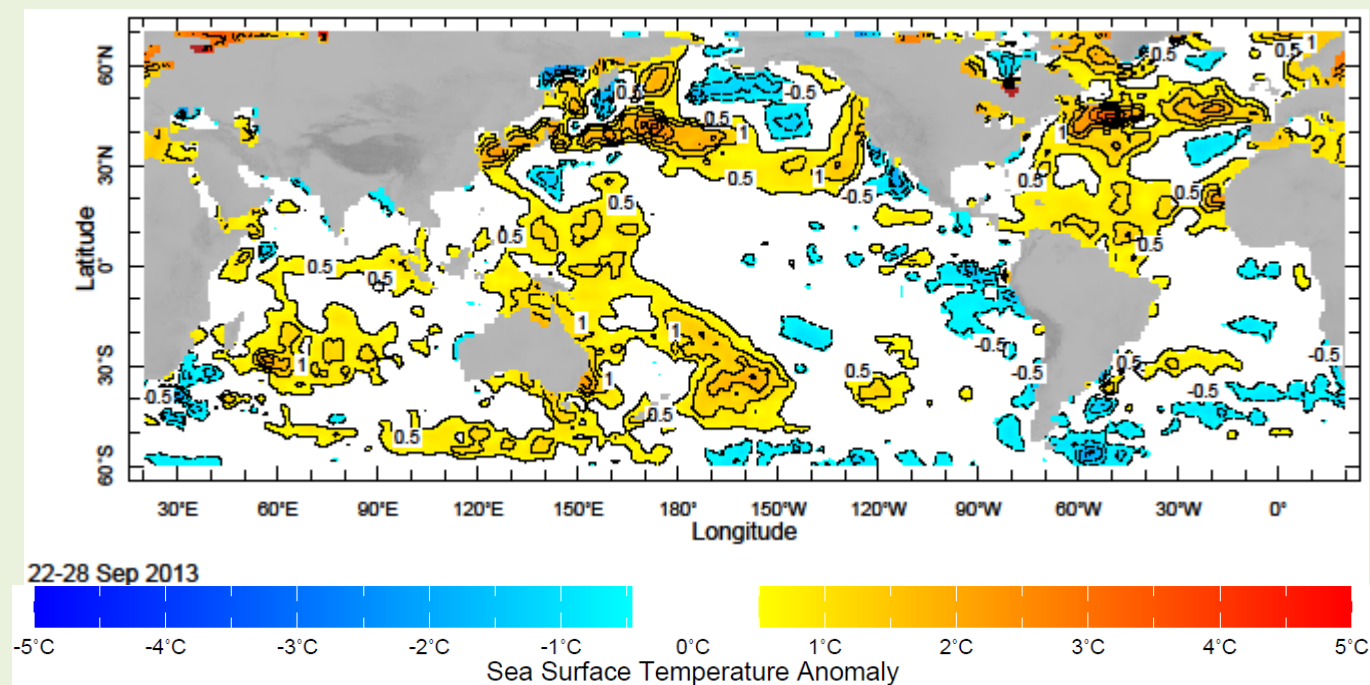
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#### 3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.



**d) Weekly Average SST Anomalies ( $^{\circ}\text{C}$ ), 22<sup>nd</sup> – 28<sup>th</sup> September, 2013**

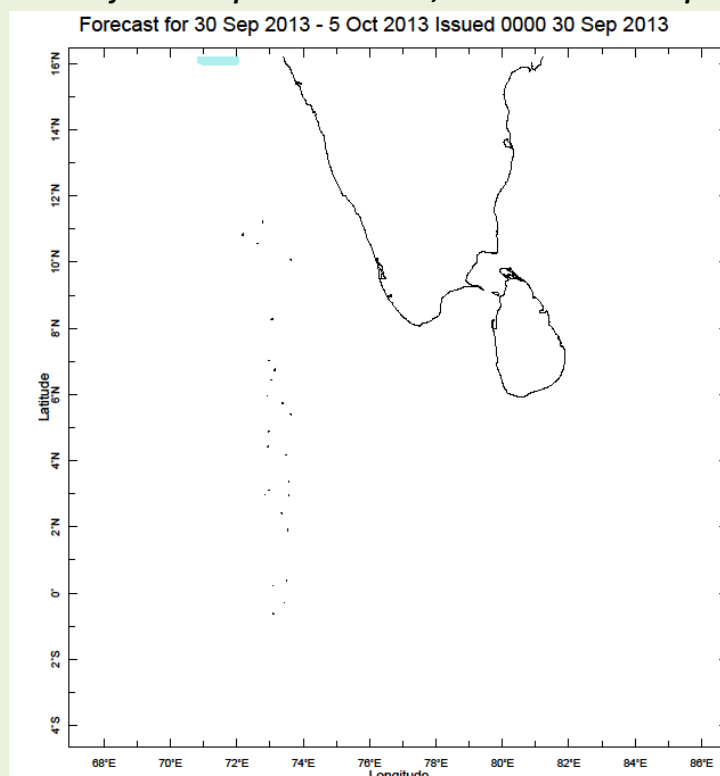


Data Source: NCEP, Environmental Monitoring Center

Base Period of Climatology: 1971- 2000

### 3). Predictions

**a) Weekly Precipitation Forecast for 30<sup>th</sup> September- 5<sup>th</sup> Oct, 2013: Issued 30<sup>th</sup> September, 2013**





## b) Seasonal Rainfall and Temperature Predictions from IRI

